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MONTANA FOREST PRODUCTS BULLETIN

UTILIZATION AND MARKETING

Department of State Lands, Division of Forestry
2705 Spurgin Road, Missoula, Montana 59801
Ph: (406) 728-4300

GARY G. BROWN, State Forester

PAUL MOORE, Editor

VOL. 10, NO. 3 SEPTEMBER - 1985

This bulletin is mailed primarily to individuals engaged in the Forest Products Industry in Montana. In addition, it is mailed to county agents, lumber brokers, wholesalers, dealers of sawmill and logging equipment, interested technicians, educators and Montana Tree Farmers, as well as the Departments of Forestry in all states.

The purpose of this newsletter is to communicate information regarding the properties and use of wood products, promote efficiency in the utilization of wood from the stump to the end product, and to serve as a communication link between the members of the forest products industry.

All persons receiving this newsletter are asked to examine their mailing address and advise this office of any corrections needed for proper mailing.

GEORGIA-PACIFIC INCREASES ORIENTED STRAND BOARD PRODUCTION

Georgia-Pacific Corporations will be tripling the companies' production capacity for Oriented Strand Board (OSB), one of the new generation of composite structural panels gaining wide acceptance among homebuilders.

Georgia-Pacific began manufacturing OSB in 1983. By the end of this summer the company will have four plants dedicated to composite panels, with a total annual capacity of 768 million square feet.

According to T. Marshall Hahn, Jr., chairman, "The acceptance of these new panels among homebuilders as well as do-it-yourselfers has been excellent. Their increasing use in the commodity markets has allowed us to shift plywood production more toward specialty products, and has enabled us to increase the volume of specialty grades to approximately 50 per cent of our total plywood production."

OSB is made of wood strands, chipped from logs that are generally unsuitable for plywood. The strands are spread in layers, with each layer laid at right angles to the next, and then bonded into a panel with phenolic-based resins. OSB is rated for structural characteristics by the same grading standards used for plywood, making it interchangeable for many structural applications.

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WOOD PRESERVATIVES AND THEIR CHARACTERISTICS

Southeastern Area, State and Private Forestry Branch of the U.S. Forest Service published a pamphlet, "Preservative Treatment of Posts, Timber, and Lumber" (General Report SA-GR2). The authors were Robert Little, Fran Wagner, and Harold Beals. A section of that pamphlet on the advantages and disadvantages of various preservatives follows.

PRESERVATIVES:

Chemicals used in wood preservation may be divided into two broad classes. This division is based on the material in which the preservative is dissolved. These solvents are referred to as the carriers. Two principal types of carriers are used: petroleum oil and water. Whether oil or water is used depends on which can best dissolve the preservative and carry it into the wood. Following is a brief description of some of the more widely used wood preservatives. They are broken down by carrier type. For a summary of these characteristics, see Table 1.

Table 1. SUMMARY OF PRESERVATIVE CHARACTERISTICS*

	Characteristics							
Preservative	Paint-ability	Color	Odor	Intimate Contact With Plants	Intimate Contact With Animals	Handling Character-istics	Indoor Use	Effectiveness in Preventing attack
Creosote	NR	Brown to Black	P	NR	NR	P	NR	E
Light Oil Penta in	V	Tan	V	NR	NR	V	NR	E
Heavy Oil	NR	Brown	P	NR	NR	P	NR	E
Waterborne Treatments (CCA)**	E	Green	E	G	F	G	G	E
Copper Naphthenate	F	Green	P	V	V	G	F	F

LEGEND: E - Excellent G - Good F - Fair P - Poor V - Variable
NR - Not Recommended

*These characteristics are for treated wood following 3 months of storage or service.
**When oil based paints are used, water-born preservative treated wood must be dried before painting.

OIL TYPE

Creosote

Several types of creosote are widely used. All creosote preservatives have several advantages and disadvantages:

Advantages:

--Highly toxic to wood-destroying organisms.
--Insoluble in water; therefore, it won't leach.
--Penetration into wood is easily determined because of creosote's dark color.
--Makes treated wood more resistant to weathering.

Disadvantages:

--Turns wood dark brown to black.
--Oily appearance and odor.
--Plants and animals (including some humans) are sensitive to its vapors.
--Because of its oily, disagreeable nature, creosote-treated wood cannot be painted, used near open fire or flame, or where plants or animals will be in close contact with it.

Creosoted wood is frequently used where a high degree of protection is needed at a relatively low cost and appearance is not important, e.g., utility poles, crossties, and fence posts.

Creosote, because of its thick, oily nature, is best applied via a pressure treatment. Brush application is possible when the creosote is thinned with a light oil such as diesel fuel or mineral spirits. Brush it on only as a spot treatment when pressure treated material must be cut and untreated wood is exposed.

Pentachlorophenol

Pentachlorophenol is commonly referred to as penta or PCP. Penta-treated wood varies in color, depending on the type of oil that is used as a carrier; the heavier oils will darken the wood. Advantages and disadvantages of penta are as follows:

Advantages:

--Highly toxic to wood-destroying organisms.
--Insoluble in water; therefore it won't leach.
--When a light oil carrier is used, the treated wood may be painted or stained.
--Penetrates wood readily.
--May be used in conjunction with water repellents.

Disadvantages:

--Toxic and irritating to plants, animals, and humans.
--Difficult to mix when used in the dry state.
--Heavy oil carriers have a disagreeable odor which lingers.
--Tends to migrate in wood, especially when heated.
--The heavier the weight of the oil carrier, the more difficult it is to paint the treated wood.
--Not recommended for marine use where wood contacts salt water.

Pure penta is a powder. When mixed with a carrier of heavy oil, the properties of penta-treated wood are similar to those of creosote. When a light oil carrier is used, the treated wood has little odor, is similar in color to untreated wood, and can usually be painted or stained. Where a completely clean surface is needed, wood can be treated with a mixture of penta in liquified petroleum gas (LPG). During the treating process, the LPG is flashed off leaving only the penta in the wood. The treated wood is clean, dry and will accept any type of finish. A new waterborne penta process has been developed. The process holds great promise and the wood has properties similar to penta in LPG. Penta-treated wood is most often used for lumber, utility poles, and fence posts. Wood treated with penta should not be used in enclosed areas that are not well ventilated. Also, penta-treated wood should not come in contact with plants or food.

Virtually all commercial treatments employ a pressure process. Pressure application gives by far the best performance for the least cost. When small amounts of treated wood are needed, penta may be applied via soaking, dipping, or brushing. For the small user, penta is available in a concentrated form. It may be diluted using a light petroleum oil.

Copper Naphthenate

This bright green, oily material has been used as a wood preservative for many years. Copper naphthenate is most frequently applied by the user; it is very seldom used in pressure treating processes. Copper naphthenate is available at retail stores in either a ready-to-use or a concentrated form. Mix the concentrate according to the directions on the label.

Advantages:

--Not toxic to plants.
--Usually does not irritate users' skin.
--Readily available.
--Easily applied by home treatment methods.
--Green color shows extent of treatment.

Disadvantages:

--Its bright green color frequently bleeds through finishes, making it difficult to cover.
--Has a somewhat objectionable odor.
--Usually costs more than penta or creosote.
--Not as toxic to decay fungi and termites as penta or creosote.
--Not available in pressure treated form.

Because it is less toxic than penta or creosote to humans and plants, it is a good choice for the home applicator. Application methods available to the user include spray, brush, dip and soak, with soaking being the most effective.

Waterborne

The vast majority of waterborne preservatives are applied via pressure treatment methods. The normal process for treating involves pressure impregnating dry wood with the waterborne preservatives. After treating, some firms do not

redry the wood before it is sold. If the user purchases wet wood, the water used in the treating process must dry while the wood is in service. Wood that is redried is lighter, less subject to surface mold growth, and doesn't warp as badly in service. Many types of waterborne preservatives are available. Some of the more common types are listed in Table 2.

By far the largest amount of waterborne preservatives currently in use are of the Types II and III of chromated copper arsenate (CCA). The advantages and disadvantages of these CCA's are as follows:

Advantages:

--Toxic to wood-destroying organisms.
--Paintable, clean, and odorless.
--Will not leach in the presence of water
--Readily available in pressure-treated form.

Disadvantages:

--If the treated wood is wet when put into service, it may warp or twist. For this reason, wood should be kiln or air dried before use.
--Not available for non-pressure application.
--Does not prevent weathering of wood.

Table 2. WATERBORNE PRESERVATIVES

Chemical Name	Abbreviation	Some Common Trade Names
Acid copper chromate	ACC	Celcure
Ammonical copper arsenite	ACA	Chemonite
Chromated copper arsenate	CCA	
Type I or Type A		Greensalts or Erdalith
Type II or Type B		Osmose K-33 or Boliden K-33
Type III or Type C		Wolman CCA, Osmose K-33
Chromated zinc chloride	CZC	None
Fluor-chrome-arsenate-phenol	FCAP	Wolman Salts or Osmosalts
Sodium pentachlorophenate	Sodium PCP	Dowicide G

CCA, while very effective against decay and termites, may allow the growth of surface molds. This mold growth occurs during periods of favorable weather conditions where tightly stacked piles of treated wood are still wet. Because the preservative is fixed in the wood, free water and wood sugars at the surface act as a growing medium for fungi. Although this mold growth is only active on the surface and in no way reduces the strength or life of the wood, it is unsightly. Users may mistakenly think that the wood has been improperly treated. To alleviate this problem some companies apply a surface mold preventative chemical to CCA-treated wood or incorporate a mildewcide during the treating process.

CCA-treated wood has a light greenish tint when first put in service; this fades after a period of weathering. CCA-treated wood is the most acceptable treated wood used around the house. Treated wood may be used for plant boxes, greenhouses, decks and even foundations.

DEPARTMENT OF STATE LANDS TIMBER SALE

BLANCHARD/WOODCHUCK TIMBER SALE - Sealed bids will be received by the Administrator, Division of Forestry, Department of State Lands, 2705 Spurgin Road, Missoula, Montana, up to 2:00 p.m., September 16, 1985 for the merchantable sawtimber designated for cutting on Section 36, T15N-R15W and the W 1/2 Section 6, T14N-R14W. This sale is estimated to contain 366 MBF Douglas-fir, 74 MBF western larch, 112 MBF ponderosa pine, 35 MBF lodgepole pine and 1 MBF dry sawlogs.

The timber will be sold to the highest responsible bidder and no bid will be accepted at less than $5.00/MBF Douglas-fir, $10.25/MBF western larch, $107.25/MBF ponderosa pine, $8.55/MBF lodgepole pine and $2.50/MBF dry sawlogs.

Full particulars regarding the terms of the contract regulations governing the sale and bid forms may be obtained from the Division of Forestry Office in Missoula, Montana; the Southwestern Land Office, Department of State Lands, 1401 27th Avenue, Missoula, Montana; and the Clearwater State Forest Headquarters, Box 388, Greenough, Montana.

LUMBER SCANNER TO IMPROVE SAWMILL STUDIES

The Department of State Lands Utilization and Marketing Section has been offered the loan of a $18,000.00 portable lumber scanner from the Trianco Corporation of Seattle, Washington. The machine is designed to accurately measure boards and transmit data for Sawmill Improvement Studies. Its increased accuracy and processing efficiency will save many hours of work and produce more accurate study results.

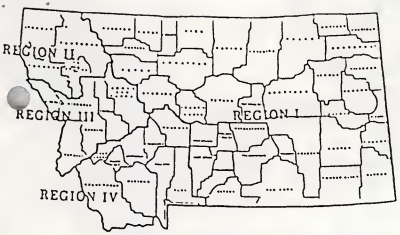
The Sawmill Improvement Program (SIP) is an industry service program established to analyze the capabilities of sawing systems to convert sawtimber into lumber. A SIP analysis identifies components in the sawing system where changes will result in increased lumber recovery.

For a demonstration of the Trianco Scanner or to conduct a Sawmill Improvement Study, contact the Marketing Bulletin Editor.

MONTANA LOG PRICE REPORT

The state-wide log price report on the following page catalogs recently delivered average log prices to sawmills by species using four geographical areas within Montana. The objective of the price report is to show private forest landowners the value of their timber and help them gauge the proper time to enter the market.

Prices are provided by approximately 35 sawmills operating within the state. The report is published through the Extension Forester's Office, School of Forestry, University of Montana, Missoula, Montana 59812.



MONTANA LOG PRICE REPORT

SEPTEMBER - OCTOBER 1985

The following information is a summary breakdown of recent past average prices reportedly paid by primary wood processors for logs of the various species listed. These prices are not necessarily a reflection of current market prices. Fair market prices may vary a great deal based on log size, length, quality, contract size and terms, and a number of other factors. All information reported is recent average price per thousand board feet (MBF), Scribner Oecimal rule delivered to the mill site, unless otherwise noted.

Prices provided for this report by individual firms are treateo as confidential disclosure of the firm's operations. Any requests for mill specific data which have been provided for the log report will be denied.

SAWLOGS Scribner Dec C MBF	REGION I	*	REGION II	*	REGION III	*	REGION IV	*
Species	Avg. Low High		Avg. Low High		Avg. Low High		Avg. Low High	
Ponderosa pine	$110/$ 90/$130	F/P					$160 /$160/$160	P
(Yellow)	$130/$130/$130	F	$209 /$175/$250	G/F	$192 /$170/$215	F		
(Bull)	$130/$130/$130	F	$141 /$135/$150	F/P	$125 /$120/$135	F/P		
Lodgepole pine	$145/$145/$145	F	$138 /$130/$145	G/P	$152 /$145/$160	G/F	$161 /$150/$170	G
Oouglas-fir	$127/$110/$145	F/P	$143 /$135/$160	F/P	$152 /$145/$160	G/F	$160 /$150/$170	G/F
Western larch			$148 /$135/$160	F/P	$152 /$145/$160	G/F		
Englemann soruce	$145/$145/$145	F	$146 /$130/$170	G/F	$162 /$155/$170	G/F	$163 /$155/$170	G
Subalpine fir			$137 /$120/$145	G/P	$148 /$145/$155	G/F	$160 /$155/$165	F
Grand fir			$140 /$135/$145	F/P	$145 /$145/$145	F		
Western red cedar			$223 /$220/$225	G/F				
Hemlock			$140 /$135/$145	F/P	$155 /$155/$155	G		
White pine			$215 /$190/$225	G/F				
Cottonwood								

VENEER LOGS Scribner Oec C MBF	STATEWIOE REPORT			
Species	Avg.	Low	High	Demand Next 60 Days
Oouglasfir	$170 /	$170 /	$170	F
Western Larch	$170 /	$170 /	$170	F

* G = Good
F = Fair
P = Poor

PUBLICATIONS AVAILABLE

The following publications may be obtained free upon request, unless otherwise noted, from the Director, Forest Products Laboratory, P.O. Box 5130, Madison, WI 53705. Phone: 608-264-5637.

"A Microwave Method for Measuring Moisture Content, Density, and Grain Angle of Wood." William L. James, You-Hsin Yen, Ray J. King, U.S. Forest Service, Res. Note FPL-0250, March, 1985.

"Performance of a Press-Lam Bridge." David S. Gromala, Russell C. Moody, and Michael M. Sprinkel, U.S. Forest Service, Res. Note FPL-0251.

"Age of Wood: Progress Through Wood Research." U.S. Forest Service, 1985.

"Empirical Equations for Estimating Drying Times of Thick Rotary-Cut Veneer in Press and Jet Dryers." John L. Tschernitz, U.S. Forest Service, Res. Paper FPL 453.

"Airborne Sound Transmission Loss Characteristics of Wood-Frame Construction." Fred F. Rudder, Jr., U.S. Forest Service, General Technical Report FPL-43.

"FPL Design for Lumber Dry Kiln Using Solar/Wood Energy in Tropical Latitudes." John L. Tschernitz and William T. Simpson. U.S. Forest Service, General Technical Report FPL-44.

"Evaluation of Mixed Hardwood Studs Manufactured by the Saw-Dry-Rip (SDR) Process." Robert R. Maeglin and R. Sidney Boone, U.S. Forest Service, Res. Note FPL-0249, March, 1985.

"Investment Limits for Small-Scale SDR and EGAR Sawmills." George B. Harpole, U.S. Forest Service, Research Paper, FPL 454.

"A Recordkeeping System for Small Sawmills." George R. Niskala, U.S. Forest Service, Marketing Bulletin 74.

The following publications are available from Westfornet Monthly Alert, May, 1985 Edition.

"Sawmillers can profit by knowing market trends." Stuart U. Rich, Professor of marketing and director of the Forest Industries Management Center at the University of Oregon, Eugene.

"Roadless Areas--Here Today, Gone Tomorrow?" by Randal O'Toole, Nov., 1984.

"Should Your Child Be A Forester?" Frederick K. Weyerhaeuser, Women in Forestry, Fall, 1984.

"Home Sweet Log Home." William Hoffer, American Forester, November, 1984.

"Recovery and transport of forest biomass in mountainous terrain." A. W. J. Sinclair, Canadian Forestry Service Information Report BC-X-254.

FOR SALE: FOREST PRODUCTS

We can supply truckloads or carloads of prefabricated and/or any preservative treated forest products such as bridge timbers, in structural grades of oak, SYP, or DF, cross ties, construction mats, poles, piling, and heavy planking, etc. Contact us for difficult or unusual specifications. Call or write Germain Timber Co., P.O. Box 7836, Pittsburgh, Pennsylvania 15215. Phone: 412-782-3240.

KD C & Btr Yellow Pine can custom grade for you. Also have in stock 4/4 KD Red Oak in 1 Face & Btr and straight 1 C. Can S2S and also rip. Contact Preston Germain, Germain Timber Co., P.O. Box 7836, Pittsburgh, Pennsylvania 15215. Phone: 412-782-3240.

FOR SALE: SERVICES & EQUIPMENT

No. 16 Armstrong circle saw grinder, $1,600.00. 40" DN Hatchet Knife Grinder, $2,200.00. 3 Headblock carriage with Husk and 48' of track, $4,500.00. For more information, call Missoula Saws, 2301 Grant St., Missoula, MT 59801. Phone (406) 721-2580.

Gisholt No. 3 turret lathe, $1,500.00 or trade for items of equal value. evnings, (406) 273-0502.

Well established and very profitable Idaho Panhandle Post Mill and Treating Plant. Includes land, buildings, equipment, machinery and inventory. Owner will train. Sale due to health and age (65). Appraised value in excess of $200,000, but will negotiate with realistic terms. Qualified buyers only. Phone (208) 267-2211.

D7E-48A8325, Winch in exceptional condition, screened canopy, lights and angle blade. Idaho Jammer in good condition, truck mounted. Powered with 671 GMC. Both truck and drums are run by the 671 GMC. Double boom, 4 guy-lines. Guylines and drums are operated by air. Drum capacity--main--1,500 ft., 5/8"; haulback--3,000 ft, 1/2". Set up to skid, skyline and ground lead. Job can go with machine. Also Christy carriage, skidding tongs and other miscellaneous equipment. Phone (406) 844-3348.

Mobile Dimension Sawmill in good condition. Willing to negotiate price. Call Bud Brooks at 273-6060. Also have miscellaneous logging equipment for sale.

Model H 125 Ramey Loader in good condition, $3,600.00; option with truck. Call 777-2576 evenings.

WANTED SERVICES & EQUIPMENT

Mobile Dimension Mill to cut small quantity of Lodgepole logs on site near Seeley Lake. Phone: (406) 549-8172.

Industrial diesel engine in the 30 hp to 50 hp range, for use on 3-saw edger. Must be in good condition. Phone 406-777-3754.

If you wish to advertise a forest product or a piece of wood-processing machinery in this bulletin complete the form below. No charge is made for this service. If you wish to rerun an item, a written request must be submitted before the next issue.

NAME OF PERSON OR FIRM: _____

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ZIP CODE: _____ PHONE: _____

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